

CLAIMS

1. A device for sorting products, which device comprises adjacently arranged supporting units which are movable in a direction of transport along a conveying path, each supporting unit being provided with at least one load carrying platform comprising a supporting surface for supporting a product, which load carrying platform is supported by a support member, which can be tilted by tilting means about an axis of tilt parallel to the conveying path with respect to a conveying element forming part of a supporting unit, which conveying element is movable along a guide extending according to said conveying path, characterized in that the tilting means comprise at least one cam which can be rotated by drive means about an axis of rotation extending parallel to the axis of tilt, spaced from said cam by some distance, during which rotation the cam moves over a camway so as to cause the support member to tilt about the axis of tilt, between a neutral position and an extreme position, through rotation of the cam about the axis of rotation.
2. A sorting device according to claim 1, characterized in that said camway forms part of said support member.
3. A sorting device according to claim 1 or 2, characterized in that said camway extends at least substantially in radial direction with respect to the axis of tilt.
4. A sorting device according to claim 1, 2 or 3, characterized in that the connecting lines between the axis of rotation and the cam on the one hand and between the axis of tilt and the cam on the other hand include an angle ranging between 60 degrees and 120 degrees, more preferably between 80 degrees and 100 degrees, with each other in the neutral position.
5. A sorting device according to any one of the preceding claims, characterized in that the connecting lines between the axis of rotation and the cam on the one hand and between the axis of tilt and the

cam on the other hand include an angle ranging between 60 degrees and 120 degrees, more preferably between 80 degrees and 100 degrees, in an extreme position.

5 6. A sorting device according to any one of the preceding claims, characterized in that the tilting means are arranged for causing the support member to tilt between the neutral position and the extreme position through rotation through 180 degrees or more of the cam about the axis of rotation.

10 7. A sorting device according to any one of the preceding claims, characterized in that the angle of tilt of the support member between the neutral position and the extreme position ranges between 30 degrees and 60 degrees.

15 8. A sorting device according to any one of the preceding claims, characterized in that the tilting means comprise two cams which are jointly rotatable about the axis of rotation, during which rotation on one side of the neutral position one of the cams moves over one of the two camways, and during which rotation on the other side of the neutral position the other one of said cams moves over the other one of the two camways.

20 9. A sorting device according to claim 8, characterized in that the two camways define a V-shape between themselves.

10. A sorting device according to claim 9, characterized in that said V-shape comprises an angle ranging between 30 and 60 degrees.

25 11. A sorting device according to any one of the preceding claims, characterized in that said drive means comprise an electric motor for each supporting surface.

30 12. A sorting device according to any one of the preceding claims, characterized in that the load carrying platforms of adjacent supporting units abut against each other, each supporting surface being made up of the upper sides of a supporting element and of a bridging element which overlaps the supporting element at a first end thereof and

which is movable in a direction parallel to the supporting surface with respect to the supporting element so as to retain the mutual abutment of the adjacent load carrying platforms upon passage through a curved section.

5 13. A sorting device according to claim 12, characterized in that the bridging element is movable in two degrees of freedom with respect to the supporting element.

14. A sorting device according to claim 12 or 13, characterized in that spring means are provided for causing adjacent load carrying
10 platforms to abut against each other.

15. A sorting device according to claim 14, characterized in that said spring means are operative between a pivot pin, which is operatively connected to either one of the supporting element and the bridging element on the one hand and to the other one of said supporting
15 element and said bridging element on the other hand, or at least a part of the supporting unit that is connected thereto.

16. A sorting device according to any one of the preceding claims, characterized in that said supporting surface is provided with supporting edges extending perpendicularly to the axis of tilt.

20 17. A sorting device according to claim 16, characterized in that the height of said supporting edges decreases from a point halfway their length towards the ends thereof.

18. A sorting device according to claim 17, characterized in that the height of the supporting edges equals zero at the ends thereof.

25 19. A sorting device according to any one of the claims 16-18, characterized in that the height of the supporting edges is at least 6 mm, more preferably at least 8 mm, at least at a position halfway the length of said supporting edges.

30 20. A sorting device according to any one of the claims 16-19, characterized in that the radius of the upper sides of the supporting edges is maximally 8 mm, more preferably maximally 6 mm, at least at a

position halfway the length of said supporting edges.

21. A sorting device according to any one of the claims 16-20, characterized in that the spacing between two adjacent supporting edges is more than 10 mm and less than 80 mm.

5 22. A sorting device according to any one of the preceding claims, characterized in that the length of each supporting surface, seen in the direction of transport, ranges between 500 mm and 700 mm.

23. A sorting device according to any one of the claims 1-21, characterized in that the length of each supporting surface, seen in the
10 direction of transport, ranges between 300 mm and 500 mm.

24. A sorting device according to any one of the preceding claims, characterized in that the sorting device comprises control means which are arranged for simultaneous activation of the tilting means associated with at least two adjacent supporting units during joint
15 support of the product by the respective supporting surfaces associated with the support units in question.

25. A method for sorting products, characterized by using a device according to any one of the preceding claims.